UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL RISK MANAGEMENT RESEARCH LABORATORY
GROUND WATER AND ECOSYSTEMS RESTORATION DIVISION
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OFFICE OF
RESEARCH AND DEVELOPMENT

November 30, 2007

MEMORANDUM

SUBJECT: Review Comments on the "*Data Evaluation/Comparison with Preliminary Screening Values, Multimedia Analytical Data (through 30 November 2006) (Revision 01), Gulfco Marine Maintenance Site RI/FS Oversight*" Gulfco Marine Maintenance Superfund Site in Freeport, Texas (08-R06-001)

FROM: Ann Keeley, Ph.D.
Subsurface Remediation Branch

TO: Gary Miller, RPM
EPA Region 6

This is in response to your questions in regard to Gulfco Marine Maintenance Superfund Site ground water analysis for natural attenuation assessment. I have reviewed the report entitled: "Data Evaluation/Comparison with Preliminary Screening Values, Multimedia Analytical Data (through 30 November 2006) (Revision 01), Gulfco Marine Maintenance Site RI/FS Oversight," prepared by EA Engineering, Science, and Technology, Inc (EA) and the following are my responses to your specific questions.

We use and extensively recommend methods RSK 175/3 and RSK 194/3, standard operating procedures that have been prepared for use by the Ground Water Ecosystems Restoration Division of the U.S. Environmental Protection Agency for preparation and analysis of water samples for determination of dissolved gases by micro gas chromatographs. It is noted that the methods are not "official EPA approved methods". However, since at the present time there are no other official EPA methods available for analysis of methane, ethane, and ethene in ground water, these have been used on numerous Superfund and RCRA sites especially in connection with monitored natural attenuation (MNA). For your convenience, I have attached (only as electronic version) a copy of both methods for your review.

With respect to geochemical parameters, it is recommended that spatial and temporal analysis should include both sulfate and sulfide. Since biodegradation of some of the COCs at this site are conducive to sulfate-reducing conditions, collection of sulfate data are warranted. As correctly stated in your correspondence, sulfide may precipitate and will not provide any

useful information. Furthermore, we routinely consider the relationship between sulfate and sulfide concentrations and use changes in their concentrations to interpret activity or the lack of.

I hope that the information will be useful to your endeavor. Please do not hesitate to contact me by phone (580-436-8890) or by email (keeley.ann@epa.gov) if I can be of further assistance to you. As always, thank you for the opportunity to provide assistance.

cc: Linda Fiedler (5203P)
Rafael Gonzalez (5204P)
Vince Malott, Region 6
Terry Burton, Region 6